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I, JULIE BILLINGSLEY, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2003904181 for a patent by COLIN PATRICK HEALY and SIMON SAMUEL LYNE as filed on 08 August 2003.

WITNESS my hand this
Seventeenth day of August 2004

J. Billingsley

JULIE BILLINGSLEY
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PRIORITY DOCUMENT
SUBMITTED OR TRANSMITTED IN COMPLIANCE WITH RULE 17.1(a) OR (b)

APPLICANT: COLIN PATRICK HEALY
AND
SIMON SAMUEL LYNE

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PROVISIONAL SPECIFICATION FOR THE INVENTION ENTITLED

"A CLAMP"

The present invention will be described in the following statement:

The present invention relates to a clamp.

It is known to require the use of clamps to hold articles relative to one another. One common use for a clamp is in order to hold an article such as a length of wood in a fixed location, such as against a work bench.

A known type of clamp is called a "G clamp". A G clamp comprises a frame having a clamping point, and a clamping member arranged to move within a threaded aperture within the frame towards and away from the clamping point.

There are several disadvantages with known clamps. These include an inability to successfully clamp items which do not have a flat surface against which a clamping point can rest. A further disadvantage is that the use of known clamps requires locations such as workbenches to be flat near their edge, as the presence of lips and the like can make use of the clamps difficult.

The present invention attempts to overcome at least in part some of the aforementioned disadvantages of previous clamps.

In accordance with one aspect of the present invention there is provided a clamp comprising a first clamping member having a first clamping element and a second clamping member having a second clamping element, the first and the second clamping members being relatively rotatable about a pivot from a closed position wherein the first clamping element is adjacent the second clamping element to an open position wherein the first clamping element is spaced from the second clamping element, and wherein an open region is defined between the first and second clamping elements when in the closed position.

Preferably, the first and second clamping elements have outer portions which are substantially L-shaped.

The present invention will now be described, by way of example, with reference to the accompanying drawing, in which:

Figure 1 is a perspective view of a clamp in accordance with the present invention.

Referring to the Figures, there is shown a clamp 10 comprising a first clamping member 12 and a second clamping member 14.

The first clamping member 12 has an inner portion 16 and an outer portion 18.

The outer portion 18 is substantially L shaped, with a long arm 20 extending away from the inner portion 16 and a short arm 22 located remote from the inner portion 16.

The inner portion 16 is substantially triangular in shape, with the outer portion 18 extending from a side of the inner portion 16. The inner portion 16 has a first vertex 24 opposite the side of the outer portion 18, a second vertex 26 from which the outer portion 18 extends and a third vertex 28. The side between the second vertex 26 and the third vertex 28 is substantially parallel to, and similar in length to, the short arm 22 of the outer portion 20.

The first clamping member 12 is constructed of two parallel side members 30, 32 which are connected, and spaced apart by, a plurality of fixed spacers 34 spaced along the long arm 20 of the outer portion 18.

The first clamping member 12 further includes first, second and third rotating spacers 36, 38 and 40. The rotating spacers 36, 38 and 40 are in the shape of hexagonal prisms, and extend between the side members 30, 32. The rotating spacers 36, 38, 40

are pivotably connected to the side members 30, 32 such that they are able to rotate about an axis perpendicular to the plane of the side members 30, 32.

The first rotating spacer 36 is located adjacent the first vertex 24. The second rotating spacer 38 is located adjacent the third vertex 28. The third rotating spacer 40 is located adjacent an outermost point of the short arm 22 of the outer portion 18. The third rotating spacer 40 is arranged such that it extends partially beyond the outer most point of the short arm 22.

The second clamping member 14 comprises an L-shaped outer portion 42 and an inner portion 44. The outer portion 42 is substantially identical in size and shape to the outer portion 18 of the first clamping member 12, and has a long arm 46 and a short arm 48. The inner portion 44 extends diagonally away from the inner most point of the long arm 46, in a direction on the same side of the long arm 46 as the short arm 48. The second clamping member 14 is constructed in a similar fashion to the first clamping member 12, having parallel side members 50, 52. The spacing between side members 50 and 52 is slightly smaller than that between side members 30 and 32, such that the second clamping member 14 can narrowly fit within the gap between side members 30 and 32.

The second clamping member 14 has a single fixed spacer 34 located along the long arm 46. It has a fourth rotating spacer 54 located at the junction between inner and outer portions 42, 44, and a fifth rotating spacer 56 located adjacent an outermost point of the short arm 48 of the outer portion 42. The fifth rotating spacer 56 is arranged such that it extends partially beyond the outer most point of the short arm 48.

The clamp 10 is constructed by orienting the first and second clamping members 12, 14 towards each other such that the third and fifth rotating spacers 40, 56 are adjacent. The second clamping member 14 is connected to the first clamping member by means of the third rotating spacer 38. The third rotating spacer 38 is arranged to connect the side members 50, 52 at a location along the inner portion 44. The connecting is such that the first and second clamping members 12, 14 are pivotably connected at that point, with the second clamping member 14 within the first clamping member 12.

Each of the first spacer 36 and the fourth spacer 54 have an aperture passing between opposed side faces thereof. The apertures are of the same dimension, and are arranged such that when the first and fourth spacers 36, 54 are rotated to appropriate positions the apertures are aligned.

An adjusting bolt 58 is engaged within the apertures of the first and fourth bolts 36, 54. The adjusting bolt 58 is externally threaded, and the aperture of the first spacer 36 is internally threaded so as to complement the adjusting bolt 58. The adjusting bolt 58 has a first end which is held within the fourth spacer 54, and is able to rotate within the aperture of the first spacer. The adjusting bolt has a second end located outside the inner portion 16 of the first clamping member 12, the second end having a handle 60 associated therewith to assist in rotation of the adjusting bolt 58.

The first and second clamping members 12, 14 each include ribbed edges 62 located along the respective long arms 20, 46 of the side members 30, 32, 50, 52. The ribbed edges are located along internally facing edges of the long arms 20, 46, so that the ribbed edges 62 of the first clamping member 12 are oriented towards the ribbed edges 62 of the second clamping member 14.

An aperture 64 passes through the first clamping member 12 centrally of the inner portion 16.

In use, the clamp 10 operates between a closed position and an open position. The closed position is characterised by the relative rotation of the first and second clamping members 12, 14 to a position wherein the third spacer 40 and the fifth spacer 56 are adjacent one another. It will be understood that the L-shaped nature of the outer portions 18, 42 result in an open region 66 being defined inbetween.

Relative rotation of the clamping members 12, 14 is achieved about the second spacer 38. The relative position of the clamping members 12, 14 about the second spacer is determined by the length of the adjusting bolt 58 which is between the first and fourth spacers 36, 54. As this length is decreased, by winding of the adjusting bolt 58 resulting in movement of the first spacer 36 along the adjusting bolt 58, the clamp 10 is moved into an open position wherein the third and fifth spacers 40, 56 are spaced from each other.

It will be appreciated that the clamp 10 can be used in a number of different applications. The third and fifth spacers 40, 56 can function as first and second clamping elements, allowing articles to be clamped therebetween. Rotation of the third and fifth spacers 40, 56 allows one side of the third spacer 40 to be brought into a position substantially parallel to one side of the fifth spacer. This allows flat articles to be clamped together.

Where the flat surfaces of articles being clamped are not parallel, one of the third and fifth spacers 40, 56 can rotate accordingly

Where one article is a table surface having a lip, the design of the clamp 10 allows the lip to lie within the open region 66.

Where one article is not flat, the clamp 10 can be arranged so that the article is engaged by the outer portion 43 of the first clamping member 12. The article may rest within the L-shaped region, or may be engaged by the ribbed edges 62.

The aperture 64 may be used for hanging the clamp 10 when not in use.

Modifications and variations as would be apparent to a skilled addressee are deemed to be within the scope of the present invention.

DATED THIS 8TH DAY OF AUGUST 2003.

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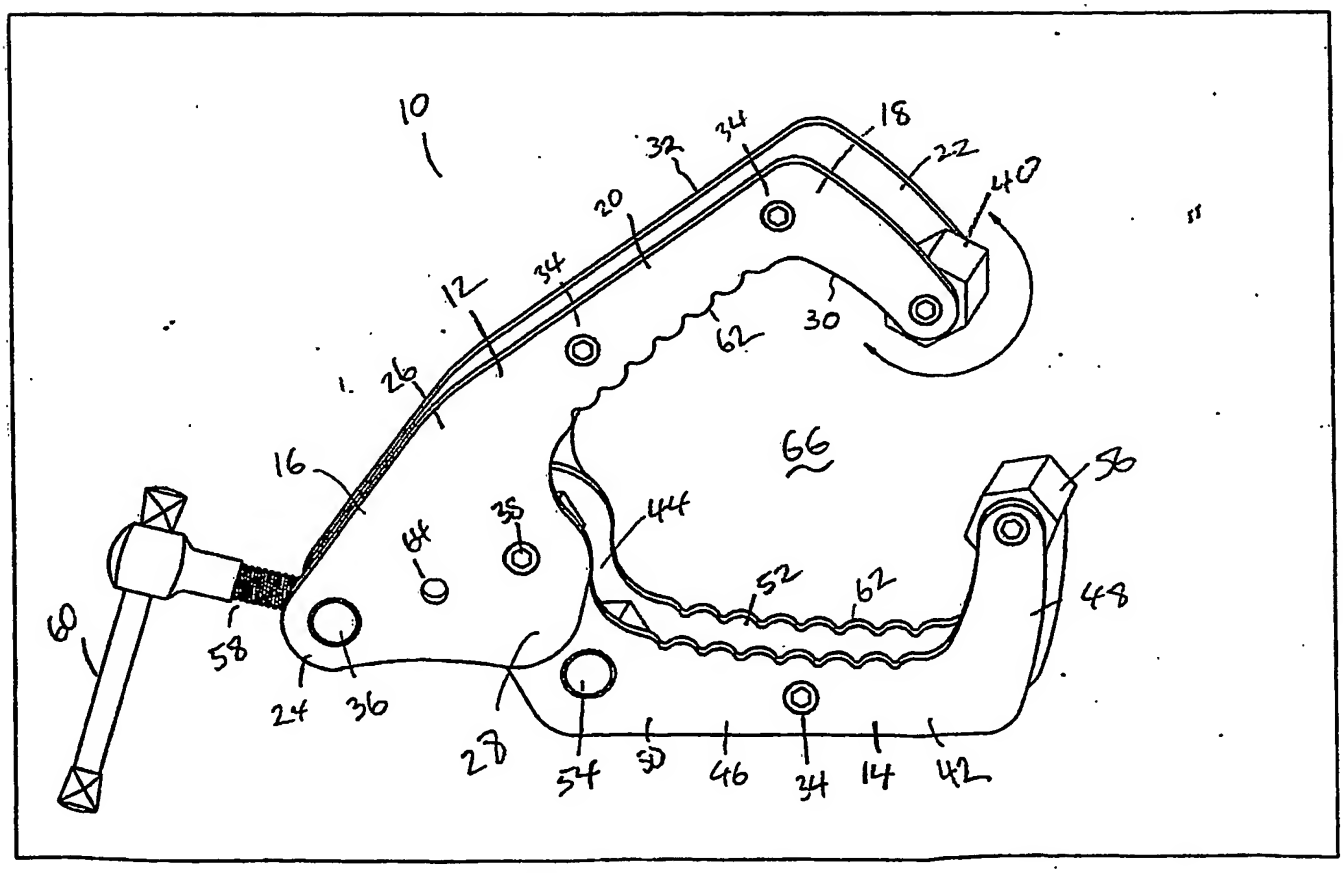
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Figure 1